

Contents

EXECUTIVE SUMMARY | S-1

1 PROJECT PURPOSE AND NEED | 1-1

1.1 Introduction | 1-1

1.1.1 | Project Location | 1-3

1.1.2 | Uses of this Environmental Impact Statement/Environmental Impact Report | 1-4

1.2 Planning Context | 1-4

1.2.1 | Countywide Planning Context | 1-4

1.2.2 | Regional Planning Context | 1-6

1.3 Project Purpose and Need | 1-7

1.3.1 | Project Purpose | 1-7

1.3.2 | Project Need | 1-8

1.3.3 | Project Ability to Meet the Purpose and Need | 1-13

2 PROJECT ALTERNATIVES | 2-1

2.1 Alternatives Development Process | 2-1

2.1.1 | Van Ness Avenue BRT Feasibility Study | 2-1

2.1.2 | Scoping Process | 2-1

2.1.3 | Alternatives Screening/Analysis | 2-2

2.1.4 | Identification of a Locally Preferred Alternative | 2-3

2.2 Project Alternatives | 2-4

2.2.1 | Alternative 1: No Build (Baseline Alternative) | 2-4

2.2.2 | Build Alternatives, including the LPA | 2-6

2.3 Construction Plan | 2-24

2.3.1 | Construction Approach and Schedule | 2-26

2.4 Project Schedule | 2-28

2.5 Capital and Operating Costs of Build Alternatives | 2-28

2.5.1 | Capital Costs | 2-28

2.5.2 | Annual Operating Costs | 2-29

2.6 Alternatives Considered and Withdrawn | 2-29

2.6.1 | Fatal Flaw Alternatives | 2-29

2.6.2 | Low-Performance Alternatives | 2-30

2.7 Related and Planned Projects | 2-31

2.7.1 | Local Transportation Projects | 2-32

2.7.2 | Regional Transportation Projects | 2-34

2.7.3 | Local Planning Projects | 2-34

2.8 Next Steps and Project Timeline | 2-37

2.9 Permits and Approvals | 2-38

3 TRANSPORTATION ANALYSIS | 3-1

3.0 Introduction | 3-1

3.1 Corridor Travel Patterns | 3-2

3.1.1 | Existing Travel Patterns | 3-2

3.1.2 | Future Travel Patterns | 3-6

3.1.3 | Summary of Corridor Travel Patterns | 3-12

| | | |
|----------|--|----------------|
| 3.2 | Transit Conditions | 3-14 |
| 3.2.1 | Existing Transit Services, Ridership, and Performance | 3-14 |
| 3.2.2 | Future SFMTA Transit Services, Ridership, and Performance | 3-25 |
| 3.2.3 | Future Regional Transit Services | 3-31 |
| 3.2.4 | Avoidance, Minimization, and/or Mitigation Measures | 3-37 |
| 3.2.5 | Transit Summary | 3-37 |
| 3.3 | Traffic | 3-39 |
| 3.3.1 | Traffic Evaluation Methodology | 3-39 |
| 3.3.2 | Existing Conditions | 3-41 |
| 3.3.3 | Environmental Consequences | 3-45 |
| 3.3.4 | Avoidance, Minimization, and/or Mitigation Measures | 3-79 |
| 3.4 | Nonmotorized Transportation | 3-89 |
| 3.4.1 | Regulatory Setting | 3-89 |
| 3.4.2 | Affected Environment | 3-91 |
| 3.4.3 | Environmental Consequences | 3-100 |
| 3.4.4 | Avoidance, Minimization, and/or Mitigation Measures | 3-115 |
| 3.5 | Parking | 3-116 |
| 3.5.1 | Existing Conditions | 3-116 |
| 3.5.2 | Environmental Consequences | 3-117 |
| 3.5.3 | Avoidance, Minimization, and/or Mitigation Measures: Build Alternatives (2015 and 2035) | 3-123 |
| 4 | AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES | 4.1-1 |
| 4.0 | Introduction | 4.1-2 |
| 4.1 | Land Use | 4.1-2 |
| 4.1.1 | Affected Environment | 4.1-2 |
| 4.1.2 | Environmental Consequences | 4.1-10 |
| 4.1.3 | Avoidance, Minimization, and/or Mitigation Measures | 4.1-13 |
| 4.2 | Community Impacts | 4.2-1 |
| 4.2.1 | Community Character and Cohesion | 4.2-1 |
| 4.2.2 | Public Services and Community Facilities | 4.2-5 |
| 4.2.3 | Relocations | 4.2-11 |
| 4.2.4 | Economic and Business Environment | 4.2-11 |
| 4.2.5 | Avoidance, Minimization, and/or Mitigation Measures | 4.2-17 |
| 4.3 | Growth | 4.3-1 |
| 4.3.1 | Affected Environment | 4.3-1 |
| 4.3.2 | Environmental Consequences | 4.3-1 |
| 4.3.3 | Avoidance, Minimization, and/or Mitigation Measures | 4.3-2 |
| 4.4 | Aesthetics/Visual Resources | 4.4-1 |
| 4.4.1 | Regulatory Setting | 4.4-1 |
| 4.4.2 | Affected Environment | 4.4-6 |
| 4.4.3 | Environmental Consequences | 4.4-19 |
| 4.4.4 | Avoidance, Minimization, and/or Mitigation Measures | 4.4-51 |

| | |
|--|---------|
| 4.5 Cultural Resources | 4.5-1 |
| 4.5.1 Regulatory Setting | 4.5-1 |
| 4.5.2 Archaeological Resources | 4.5-2 |
| 4.5.3 Historic and Architectural Resources | 4.5-7 |
| 4.5.4 Environmental Consequences | 4.5-23 |
| 4.5.5 Avoidance, Minimization, and/or Mitigation Measures | 4.5-32 |
| 4.6 Utilities | 4.6-1 |
| 4.6.1 Regulatory Setting | 4.6-1 |
| 4.6.2 Affected Environment | 4.6-3 |
| 4.6.3 Environmental Consequences | 4.6-6 |
| 4.6.4 Avoidance, Minimization, and/or Mitigation Measures | 4.6-9 |
| 4.7 Geology/Soils/Seismic/Topography | 4.7-1 |
| 4.7.1 Geologic Setting | 4.7-1 |
| 4.7.2 Environmental Consequences | 4.7-9 |
| 4.7.3 Avoidance, Minimization, and/or Mitigation Measures | 4.7-10 |
| 4.8 Hazardous Waste/Materials | 4.8-1 |
| 4.8.1 Regulatory Setting | 4.8-1 |
| 4.8.2 Affected Environment | 4.8-2 |
| 4.8.3 Environmental Consequences | 4.8-4 |
| 4.8.4 Avoidance, Minimization, and/or Mitigation Measures | 4.8-6 |
| 4.9 Hydrology and Water Quality | 4.9-1 |
| 4.9.1 Regulatory Setting | 4.9-1 |
| 4.9.2 Affected Environment | 4.9-3 |
| 4.9.3 Environmental Consequences | 4.9-7 |
| 4.9.4 Avoidance, Minimization, and/or Mitigation Measures | 4.9-10 |
| 4.10 Air Quality | 4.10-1 |
| 4.10.1 Regulatory Setting | 4.10-1 |
| 4.10.2 Affected Environment | 4.10-8 |
| 4.10.3 Environmental Consequences | 4.10-11 |
| 4.10.4 Avoidance, Minimization, and/or Mitigation Measures | 4.10-19 |
| 4.10.5 Transportation Conformity Impacts | 4.10-19 |
| 4.10.6 Avoidance, Minimization, and/or Mitigation Measures | 4.10-20 |
| 4.10.7 Greenhouse Gas Emissions | 4.10-20 |
| 4.10.8 Avoidance, Minimization, and/or Mitigation Measures | 4.10-23 |
| 4.11 Noise and Vibration | 4.11-1 |
| 4.11.1 Terminology | 4.11-1 |
| 4.11.2 Human Reaction to Noise | 4.11-3 |
| 4.11.3 Regulatory Setting | 4.11-4 |
| 4.11.4 Affected Environment | 4.11-7 |
| 4.11.5 Environmental Consequences | 4.11-11 |
| 4.11.6 Avoidance, Minimization, and/or Mitigation Measures | 4.11-12 |
| 4.12 Energy | 4.12-1 |
| 4.12.1 Regulatory Setting | 4.12-1 |
| 4.12.2 Affected Environment | 4.12-1 |
| 4.12.3 Environmental Consequences | 4.12-2 |
| 4.12.4 Avoidance, Minimization, and/or Mitigation Measures | 4.12-4 |

| | | |
|----------|---|------------|
| 4.13 | Biological Environment | 4.13-1 |
| 4.13.1 | Regulatory Setting | 4.13-1 |
| 4.13.2 | Affected Environment | 4.13-3 |
| 4.13.3 | Environmental Consequences | 4.13-4 |
| 4.13.4 | Avoidance, Minimization, and/or Mitigation Measures | 4.13-5 |
| 4.14 | Environmental Justice | 4.14-1 |
| 4.14.1 | Regulatory Setting | 4.14-1 |
| 4.14.2 | Affected Environment | 4.14-2 |
| 4.14.3 | Environmental Consequences | 4.14-4 |
| 4.14.4 | Avoidance, Minimization, and/or Mitigation Measures | 4.14-10 |
| 4.15 | Construction Impacts | 4.15-1 |
| 4.15.1 | Traffic and Transportation/Pedestrian and Bicycle Facilities | 4.15-9 |
| 4.15.2 | Land Use & Community Impacts | 4.15-12 |
| 4.15.3 | Visual/Aesthetics | 4.15-14 |
| 4.15.4 | Cultural Resources | 4.15-15 |
| 4.15.5 | Utilities/Service Systems | 4.15-18 |
| 4.15.6 | Geology/Soils/Seismic/Topography | 4.15-19 |
| 4.15.7 | Hazardous Materials | 4.15-19 |
| 4.15.8 | Hydrology and Water Quality | 4.15-20 |
| 4.15.9 | Air Quality | 4.15-23 |
| 4.15.10 | Noise and Vibration | 4.15-29 |
| 4.15.11 | Biological Environment | 4.15-32 |
| 4.16 | Irreversible and Irrecoverable Commitment of Resources | 4.16-1 |
| 4.17 | Relationship between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity | 4.17-1 |
| 5 | CUMULATIVE IMPACTS | 5-1 |
| 5.1 | Regulatory Setting | 5-1 |
| 5.2 | Methodology | 5-1 |
| 5.3 | Reasonably Foreseeable Projects | 5-2 |
| 5.4 | Environmental Areas with No Cumulative Impacts | 5-4 |
| 5.4.1 | Land Use | 5-5 |
| 5.4.2 | Growth | 5-5 |
| 5.4.3 | Visual/Aesthetics | 5-5 |
| 5.4.4 | Cultural Resources | 5-6 |
| 5.4.5 | Water Quality and Hydrology | 5-6 |
| 5.4.6 | Geology and Soils | 5-7 |
| 5.4.7 | Hazardous Materials | 5-7 |
| 5.4.8 | Biological Resources | 5-7 |
| 5.4.9 | Utilities | 5-8 |
| 5.4.10 | Air Quality | 5-8 |
| 5.4.11 | Noise and Vibration | 5-9 |
| 5.4.12 | Nonmotorized Transportation | 5-10 |
| 5.5 | Environmental Areas Subject to Cumulative Effects | 5-11 |
| 5.5.1 | Private Vehicular Traffic | 5-11 |
| 5.5.2 | Parking | 5-15 |
| 5.5.3 | Community Impacts | 5-20 |
| 5.5.4 | Public Services and Community Facilities | 5-23 |

| | | |
|-----------|--|-------------|
| 6 | FINAL SECTION 4(F) EVALUATION | 6-1 |
| 6.1 | Proposed Action | 6-1 |
| 6.2 | Section 4(f) Properties | 6-3 |
| 6.2.1 | Cultural Resources | 6-3 |
| 6.2.2 | Parks and Recreation Properties | 6-4 |
| 6.3 | Impacts on Section 4(f) Properties | 6-4 |
| 6.4 | Avoidance Alternative | 6-7 |
| 6.5 | Measures to Minimize Harm | 6-7 |
| 6.6 | Coordination | 6-9 |
| 7 | CALIFORNIA ENVIRONMENTAL QUALITY ACT EVALUATION | 7-1 |
| 7.1 | The Relationship between NEPA and CEQA | 7-1 |
| 7.2 | Significance of the Proposed Project's Impacts under CEQA | 7-1 |
| 7.3 | Findings of Significance under CEQA | 7-2 |
| 7.4 | Mitigation Measures Pursuant to CEQA Impacts | 7-2 |
| 7.5 | Unavoidable Significant Effects under CEQA | 7-25 |
| 7.6 | Environmentally Superior Alternative | 7-27 |
| 7.7 | Areas of Controversy | 7-28 |
| 8 | COORDINATION AND PUBLIC PARTICIPATION | 8-1 |
| 8.1 | Interagency Consultation | 8-1 |
| 8.1.1 | Technical Advisory Committee | 8-1 |
| 8.1.2 | Caltrans Project Development Team | 8-2 |
| 8.1.3 | FTA Quarterly Progress Review Meetings | 8-2 |
| 8.2 | Community Involvement | 8-2 |
| 8.2.1 | Public Information Meetings and Hearing | 8-2 |
| 8.2.2 | Citizens Advisory Committee | 8-3 |
| 8.2.3 | Meetings with Local Groups and Organizations | 8-4 |
| 8.2.4 | Outreach during Draft EIS/EIR Circulation | 8-4 |
| 8.2.5 | Outreach to Support LPA Selection | 8-6 |
| 8.2.6 | Cultural Resources Community Consultation | 8-7 |
| 8.2.7 | Current and Future Public Outreach Efforts | 8-7 |
| 9 | FINANCIAL ANALYSIS | 9-1 |
| 9.1 | Capital Costs | 9-1 |
| 9.1.1 | Van Ness Avenue BRT Project Capital Costs | 9-1 |
| 9.1.2 | Improvements to be Coordinated with Van Ness Avenue BRT Project | 9-2 |
| 9.1.3 | Budgeted/Planned Funding | 9-2 |
| 9.1.4 | Other Potential Funding Sources | 9-3 |
| 9.2 | Operations and Maintenance Costs | 9-5 |
| 9.3 | Risk Analysis | 9-6 |
| 9.4 | Financial Analysis Conclusions | 9-6 |
| 10 | ALTERNATIVES ANALYSIS AND THE LOCALLY PREFERRED ALTERNATIVE | 10-1 |
| 10.1 | Introduction and Approach | 10-1 |
| 10.1.1 | Alternatives Analyzed | 10-2 |
| 10.2 | Alternatives Analysis | 10-2 |
| 10.2.1 | Indicators Based on Project Purpose and Need | 10-2 |
| 10.2.2 | Additional Considerations | 10-2 |

- 10.2.3 | List of Performance Indicators | 10-2
- 10.2.4 | Alternatives Performance | 10-4
- 10.3 Locally Preferred Alternative Selection | 10-24
 - 10.3.1 | Introduction | 10-24
 - 10.3.2 | Performance Evaluation Process | 10-24
 - 10.3.3 | Steering Committee and Agreement on Consensus Alternative | 10-25
 - 10.3.4 | Weighting of Criteria and Subcriteria | 10-25
 - 10.3.5 | Risk Analysis of Center-Running Alternatives | 10-26
 - 10.3.6 | Staff-Recommended LPA: Center-Lane BRT
 with Right-Side Boarding/Single Median and Limited Left Turns | 10-27
 - 10.3.7 | Additional Outreach in Support of Staff-Recommended LPA | 10-28
 - 10.3.8 | Selection of LPA | 10-29
- 10.4 LPA Environmental Consequences and Performance | 10-29
 - 10.4.1 | LPA Environmental Consequences | 10-29
 - 10.4.2 | Summary of LPA Performance against Purpose and Need | 10-39
- 10.5 Small Starts Evaluation Process | 10-40
 - 10.5.1 | Current Rating | 10-40
 - 10.5.2 | Project Justification | 10-40
 - 10.5.3 | Local Financial Commitment | 10-41
 - 10.5.4 | Summary | 10-41

11 REFERENCES | 11-1

List of Appendices

- A Plan Drawings of the Build Alternatives and LPA
- B Changes in Parking
- C State Historic Preservation Officer Letter of Concurrence
- D Area of Potential Effect Maps
- E Distribution List
- F Notice of Intent and Notice of Preparation
- G Notice of Completion and Notice of Availability for the Draft EIS/EIR
- H List of Preparers
- I Response to Comments
- J Mitigation Monitoring and Reporting Program

List of Figures

| | |
|---|------|
| Figure S-1: Typical Cross Section of Existing Van Ness Avenue | S-5 |
| Figure S-2: Typical Cross Section of Van Ness Avenue with Build Alternative 2 | S-5 |
| Figure S-3: Typical Cross Section of Van Ness Avenue with Build Alternative 3 | S-6 |
| Figure S-4: Typical Cross Section of Van Ness Avenue with Build Alternative 4 | S-6 |
| Figure S-5: LPA: Center-Running BRT with Right-Side Loading/Single Median and Limited Left Turns | S-7 |
| Figure 1-1: Project Location Map | 1-3 |
| Figure 1-2: San Francisco Rapid Transit Network Map | 1-5 |
| Figure 1-3: Variation in Headways (Average Wait Times) at Market Street SB during the PM Peak | 1-9 |
| Figure 1-4: Components of Transit Travel Time on Van Ness Avenue (Southbound – PM Peak) | 1-10 |
| Figure 2-1: Typical Cross Sections of Build Alternatives 2-4 | 2-7 |
| Figure 2-2: Cross Sections and Station & Left-Turn Pocket Location Map for the LPA | 2-9 |
| Figure 2-3: BRT Station and Left-Turn Pocket Locations for Build Alternatives 2-4 | 2-11 |
| Figure 2-4: Vallejo Northbound Station Variant | 2-13 |
| Figure 3.1-1: The Van Ness Avenue Corridor Study Area | 3-1 |
| Figure 3.1-2: Existing (2005) Daily Motorized Person-Trips for Van Ness Avenue at Select Screenlines | 3-4 |
| Figure 3.1-3: Neighborhoods Surrounding Van Ness Avenue used for Mode Split Analysis | 3-5 |
| Figure 3.1-4: Average Daily Auto and Transit Trips in the Van Ness Avenue Corridor at Average Screenline | 3-8 |
| Figure 3.2-1: Existing Transit Routes along and crossing Van Ness Avenue (does not include Market Street) | 3-15 |
| Figure 3.2-2: Existing Transit Stops for Muni Routes 47/49 on Van Ness Avenue BRT Corridor | 3-21 |
| Figure 3.2-3: Daily Boardings by Stop for Routes 47 and 49 | 3-22 |
| Figure 3.2-4: Northbound Daily Load (Passenger Volume) for Routes 47 and 49 | 3-23 |
| Figure 3.2-5: Southbound Daily Load (Passenger Volume) for Routes 47 and 49 | 3-24 |
| Figure 3.2-6: Average Speed on Van Ness Avenue by Mode – Existing, 2015 No Build Alternative, 2015 Build Alternative 2, and 2015 Build Alternatives 3 and 4 | 3-28 |
| Figure 3.2-7: Average Travel Time in Both Directions on Van Ness Avenue for Route 47 between Mission/Otis/South Van Ness and Clay/Van Ness – Existing, 2015 No Build Alternative, 2015 Build Alternative 2, and 2015 Build Alternatives 3 and 4 | 3-29 |
| Figure 3.2-8: Average Travel Time in Both Directions on Van Ness Avenue by Mode from Duboce/Mission/Otis to Clay and Van Ness – Existing, 2015 No Build Alternative, 2015 Build Alternative 2, and 2015 Build Alternatives 3 and 4 | 3-30 |
| Figure 3.2-9: Average Delay by Mode for All Intersections between Clay and McCoppin | 3-30 |
| Figure 3.3-1: Street Network in the Proposed Van Ness Avenue BRT Project Corridor Traffic Study Area | 3-40 |
| Figure 3.3-2: 2007 Existing PM Peak-Hour Intersection LOS | 3-46 |
| Figure 3.3-3: Near-Term (2015) No Build Alternative Intersection LOS | 3-51 |
| Figure 3.3-4: Near-Term (2015) Build Alternative 2 Intersection LOS | 3-56 |
| Figure 3.3-5: Near-Term (2015) Build Alternatives 3 and 4 Intersection LOS | 3-58 |
| Figure 3.3-6: Near-Term (2015) Build Alternatives 3 and 4 with Design Option B (and LPA) Intersection LOS | 3-61 |

| | |
|--|---------|
| Figure 3.3-7: Long-Term (2035) No Build Alternative Intersection LOS | 3-65 |
| Figure 3.3-8: Long-Term (2035) Build Alternative 2 Intersection LOS | 3-68 |
| Figure 3.3-9: Long-Term (2035) Build Alternatives 3 and 4 Intersection LOS | 3-71 |
| Figure 3.3-10: Long-Term (2035) Alternatives 3 and 4 with Design Option B and the LPA Intersection LOS | 3-75 |
| Figure 4.1-1: Zoning and Land Use | 4.1-3 |
| Figure 4.1-2: Commercial and Industrial Land Use | 4.1-4 |
| Figure 4.2-1: Socioeconomic Study Area | 4.2-2 |
| Figure 4.2-2: Public and Community Facilities | 4.2-8 |
| Figure 4.2-3: Parks and Recreation | 4.2-10 |
| Figure 4.4-1: Character-Depicting Images of the Van Ness Avenue Corridor | 4.4-9 |
| Figure 4.4-2: Civic Center Historic District Map | 4.4-10 |
| Figure 4.4-3: Images of Civic Center Historic District | 4.4-12 |
| Figure 4.4-4: Images of OCS Support Poles/Streetlight Network | 4.4-14 |
| Figure 4.4-5: Damaged and Leaning OCS Support Pole/Streetlights | 4.4-15 |
| Figure 4.4-6: Landscape and Trees in the Van Ness Avenue Corridor | 4.4-18 |
| Figure 4.4-7: Scenic Vistas Viewed from within the Van Ness Avenue Corridor | 4.4-20 |
| Figure 4.4-8: Viewpoint 1: Visual Simulations of Intersection of McAllister Street and Van Ness Avenue | 4.4-23 |
| Figure 4.4-9: Viewpoint 2: Visual Simulations of Intersection of Sutter Street and Van Ness Avenue | 4.4-27 |
| Figure 4.4-10: Viewpoint 3: Visual Simulations of Intersection of Union Street and Van Ness Avenue | 4.4-29 |
| Figure 4.4-11: Viewpoints 1–3: Visual Simulations of the LPA at the Intersections of Van Ness Avenue with McAllister, Sutter, and Union Streets | 4.4-31 |
| Figure 4.4-12: Special Status Buildings Located Adjacent to Proposed BRT Stations | 4.4-47 |
| Figure 4.5-1: Civic Center Historic District Boundaries | 4.5-10 |
| Figure 4.5-2: Historic Properties Listed or Eligible for Listing within Project APE | 4.5-11 |
| Figure 4.5-3: Project Features and Location Map of Historic Properties Listed or Eligible within Project APE | 4.5-13 |
| Figure 4.5-4: Historic Properties Listed or Eligible for Listing within Project APE | 4.5-17 |
| Figure 4.5-5: Historic Properties Listed or Eligible for Listing within Project APE | 4.5-19 |
| Figure 4.5-6: Historic Properties Listed or Eligible for Listing within Project APE | 4.5-21 |
| Figure 4.7-1: Project Alignment Slope Map | 4.7-2 |
| Figure 4.7-2: Mapped Soils Underlying Project Alignment | 4.7-4 |
| Figure 4.7-3: Earthquake Fault Map | 4.7-6 |
| Figure 4.7-4: Seismic Hazard Map | 4.7-8 |
| Figure 4.8-1: Recognized Environmental Conditions – Hazardous Materials Database Listed Sites | 4.8-5 |
| Figure 4.9-1: Hydrologic Setting | 4.9-3 |
| Figure 4.9-2: San Francisco Sewer System Map | 4.9-4 |
| Figure 4.9-3: Regional Groundwater Basin Map | 4.9-6 |
| Figure 4.11-1: Typical A-Weighted Sound Levels | 4.11-2 |
| Figure 4.11-2: Typical Levels of Ground-borne Vibration | 4.11-3 |
| Figure 4.11-3: Noise Impact Criteria for Transit Projects | 4.11-5 |
| Figure 4.11-4: Background Noise Levels Modeled by the San Francisco Department of Public Health (2009) | 4.11-9 |
| Figure 4.11-5: Noise Measurement Locations | 4.11-10 |
| Figure 4.14-1: Low-Income Block Groups, Significant Traffic Impacts, and Colored Parking within the Van Ness Avenue Corridor BRT Study Area | 4.14-9 |
| Figure 4.14-2: Minority Block Groups, Significant Traffic Impacts, and Colored Parking Loss within the Van Ness Avenue Corridor BRT Study Area | 4.14-10 |

Figure 5-1: Locations of Reasonably Foreseeable Projects
within General Vicinity of the Van Ness Avenue BRT Project | 5-4

Figure 5-2: Traffic Study Area | 5-12

Figure 6-1: Cross Sections of Build Alternatives | 6-3

Figure 6-2: No Build Alternative (Existing Conditions) Cross Section | 6-7

Figure 10-1: Results of LPA Criteria Category Weighting Exercise | 10-26

Figure 10-2: LPA Cross Sections and Station and Left-Turn Pocket Location Map | 10-27

Figure 10-3: Aerial Schematic of LPA | 10-28

List of Tables

Table S-1: Summary of Environmental Impacts and Mitigation Measures | S-13

Table 2-1: Alternatives Screening Report Criteria | 2-2

Table 2-2: Major Project Features | 2-14

Table 2-3: Proposed BRT Station Locations for Build Alternatives 2-4 | 2-15

Table 2-4: Proposed BRT Station Locations for LPA | 2-16

Table 2-5: Turn Pockets Proposed under Build Alternatives 2-4 | 2-18

Table 2-6: Center-Lane Alternative Design Option B Proposed Turn Pockets | 2-22

Table 2-7: Anticipated Construction Areas and Excavation Depths | 2-24

Table 2-8: Preferred Construction Approach and Schedule | 2-27

Table 2-9: Related and Planned Projects | 2-31

Table 2-10: Anticipated Environmental-Related Permits and Approvals | 2-39

Table 3.1-1: Existing Weekday Motorized Travel Demand at Average Screenline | 3-3

Table 3.1-2: Regional versus Local Auto Trips
along Van Ness Avenue and Franklin/Gough Streets during the PM Peak | 3-5

Table 3.1-3: Divertible and Nondivertible Trips along Van Ness Avenue
(North of Broadway) during PM Peak Period | 3-5

Table 3.1-4: Mode Split for Daily Trips To, From, or Within Neighborhoods
Surrounding Van Ness Avenue | 3-6

Table 3.1-5: PM Peak Person Trips/Lane/Hour at Average Screenline | 3-9

Table 3.2-1: Existing Muni Lines along the Proposed Van Ness Avenue BRT Corridor | 3-16

Table 3.2-2: Existing Muni Service crossing the Proposed Van Ness Avenue BRT
Corridor | 3-17

Table 3.2-3: Existing Golden Gate Transit Service in or near
the Proposed Van Ness Avenue BRT Corridor | 3-19

Table 3.2-4: Passenger Capacities | 3-23

Table 3.2-5: Existing Northbound PM Peak-Hour Muni Ridership and Load Factor | 3-23

Table 3.2-6: Headway Variability for Routes 47 and 49, Southbound during PM Peak | 3-25

Table 3.2-7: Existing and Near-Term (2015) Daily Transit Boardings
on Muni Routes 47 and 49 | 3-26

Table 3.2-8: Existing and Near-Term (2035) Daily Transit Boardings
on Muni Routes 47 and 49 | 3-27

Table 3.2-9: Unexpected Delays Impacting Reliability of BRT Routes | 3-31

Table 3.2-10: Likely GGT Stop Locations with BRT Project by Project Alternative | 3-32

Table 3.2-11: Year 2015 Muni Load Factor Analysis | 3-34

Table 3.2-12: Year 2035 Muni Load Factor Analysis | 3-36

Table 3.3-1: Existing (2007) Traffic Counts Average Weekday, Saturday,
and Sunday Daily, AM and PM Peak-Hour Traffic Link Volumes | 3-44

Table 3.3-2: Average Speed – 2007 Existing Conditions | 3-45

Table 3.3-3: 2015 No Build Alternative Southbound Average Speed | 3-50

Table 3.3-4: 2015 No Build Alternative Northbound Average Speed | 3-50

Table 3.3-5: Private Vehicle 2015 Southbound Average Speed | 3-54

Table 3.3-6: Private Vehicle 2015 Northbound Average Speed | 3-54

| | |
|---|-------|
| Table 3.3-7: Existing Conditions, 2015 Build Alternative 2 (Side-Lane BRT), and No Build Alternative Intersection LOS (Delay) for Intersections that Operate at LOS E or F | 3-55 |
| Table 3.3-8: Existing Conditions, 2015 Build Alternatives 3 and 4 (Center-Lane BRT), and No Build Alternative Intersection LOS (Delay) for Intersections that Operate at LOS E or F | 3-57 |
| Table 3.3-9: Existing Conditions, 2015 Build Alternatives 3 and 4 (Center-Lane BRT) with Design Option B, and No Build Alternative Intersection LOS (Delay) for Intersections that Operate at LOS E or F | 3-60 |
| Table 3.3-10: 2035 No Build Alternative Southbound Average Speed | 3-63 |
| Table 3.3-11: 2035 No Build Alternative Northbound Average Speed | 3-63 |
| Table 3.3-12: 2035 Horizon Year Southbound Average Speed | 3-64 |
| Table 3.3-13: 2035 Horizon Year Northbound Average Speed | 3-66 |
| Table 3.3-14: Existing Conditions, 2035 Build Alternative 2 (Side-Lane BRT), and No Build Alternative Intersection LOS (Delay) for Intersections that Operate at LOS E or F | 3-67 |
| Table 3.3-15: Existing Conditions, 2035 Build Alternatives 3 and 4 (Center-Lane BRT), and No Build Alternative Intersection LOS (Delay) for Intersections that Operate at LOS E or F | 3-72 |
| Table 3.3-16: Existing Conditions, 2035 Build Alternatives 3 and 4 (Center-Lane BRT) with Design Option B, and No Build Alternative Intersection LOS (Delay) for Intersections that Operate at LOS E or F | 3-76 |
| Table 3.3-17: Summary of Vehicular Traffic Impacts | 3-80 |
| Table 3.4-1: Pedestrian Crowding LOS Thresholds | 3-92 |
| Table 3.4-2: Pedestrian Crowding LOS at High Pedestrian Count Intersections | 3-92 |
| Table 3.4-3: Van Ness Avenue Intersections with Nose Cones – Existing Condition | 3-94 |
| Table 3.4-4: Pedestrian Delay LOS Thresholds for Signalized Intersections | 3-96 |
| Table 3.4-5: Pedestrian Delay LOS at Van Ness Avenue Intersections | 3-96 |
| Table 3.4-6: Pedestrian Collisions by Location (2003-2008) | 3-97 |
| Table 3.4-7: Forecast Hourly Pedestrian Crossing Volumes | 3-101 |
| Table 3.4-8: Average Median Refuge Width and Crossing Distances | 3-102 |
| Table 3.4-9: Side Street Crossings Meeting City and FHWA Walking Speed Targets during Full Walk Split | 3-103 |
| Table 3.4-10: Van Ness Crossings Meeting City and FHWA Walking Speed Targets during Full Walk Split | 3-103 |
| Table 3.4-11: Pedestrian Delay on Van Ness Avenue (seconds) | 3-104 |
| Table 3.4-12: Right-Turn Locations by Hourly Volume | 3-105 |
| Table 3.4-13: Number of Corner Bulbs by Alternative along Van Ness Avenue | 3-109 |
| Table 3.4-14: Number of Nose Cones along Van Ness Avenue | 3-109 |
| Table 3.4-15: Width of Travel Lane Used by Bicycles | 3-114 |
| Table 3.5-1: Existing Parking Supply along Van Ness and South Van Ness Avenues between Mission and Lombard Streets (2010, 2011) | 3-116 |
| Table 3.5-2: Existing Parking Occupancy along Van Ness and South Van Ness Avenues between Mission and Lombard Streets (2010) | 3-117 |
| Table 3.5-3: Parking Supply and Demand along Van Ness Avenue – No Build and Build Alternatives | 3-119 |
| Table 3.5-4: Parking Supply and Demand along Van Ness Avenue – No Build and LPA | 3-123 |
| Table 4.1-1: Major Approved and Active Projects in the Study Area | 4.1-7 |
| Table 4.2-1: Population, Employment, and Housing Projections; 2000-2035 | 4.2-1 |
| Table 4.2-2: Racial and Ethnic Composition | 4.2-3 |
| Table 4.2-3: Household Characteristics | 4.2-4 |
| Table 4.2-4: 2000 Transit-Dependent Populations | 4.2-4 |
| Table 4.2-5: Public and Community Facilities | 4.2-7 |

| | |
|--|---------|
| Table 4.2-6: Park and Recreation Facilities | 4.2-9 |
| Table 4.2-7: Labor Force by Occupation – 2000 (Civilians Age 16+) | 4.2-11 |
| Table 4.2-8: Blocks of Van Ness Avenue where Substantial Parking would be Removed | 4.2-14 |
| Table 4.2-9: Adverse Colored-Zone Parking Impacts | 4.2-16 |
| Table 4.4-1: High-Quality Landscaped Medians Featuring Mature Tree Canopies | 4.4-17 |
| Table 4.4-2: Tree Health and Condition Rating Scale | 4.4-37 |
| Table 4.4-3: Removed Trees Summarized by Tree Health and Condition | 4.4-37 |
| Table 4.4-4: Summary of Anticipated Tree Removal and Planting Opportunities | 4.4-38 |
| Table 4.4-5: Alternative 2 – Project Impact on High-Quality Landscaped Medians Featuring Mature Tree Canopies | 4.4-39 |
| Table 4.4-6: Alternative 3 – Project Impact on High-Quality Landscaped Medians Featuring Mature Tree Canopies | 4.4-40 |
| Table 4.4-7: Alternative 4 – Project Impact on High-Quality Landscaped Medians Featuring Mature Tree Canopies | 4.4-42 |
| Table 4.4-8: LPA – Project Impact on High-Quality Landscaped Medians Featuring Mature Tree Canopies | 4.4-43 |
| Table 4.4-9: Proposed BRT Station Locations and Special-Status Properties | 4.4-45 |
| Table 4.5-1: Anticipated Construction Areas and Excavation Depths | 4.5-3 |
| Table 4.5-2: Prehistoric Archaeological Site Sensitivity within the APE | 4.5-5 |
| Table 4.5-3: Status of Historic Resources within the Project APE | 4.5-8 |
| Table 4.5-4: Properties Determined Not Eligible for National Register | 4.5-23 |
| Table 4.7-1: Active Fault Seismicity | 4.7-5 |
| Table 4.8-1: Recognized Environmental Concerns for the Van Ness Avenue BRT Project – Database Listed Sites | 4.8-3 |
| Table 4.9-1: Federal 303(d) List of Impairments for Central and South San Francisco Bay | 4.9-5 |
| Table 4.9-2: Existing and Proposed Approximate Impervious Surface Area in the Project Corridor | 4.9-9 |
| Table 4.10-1: State and National Ambient Air Quality Standards and Attainment Status for the Bay Area Air Basin | 4.10-6 |
| Table 4.10-2: 2009-2011 Ambient Air Quality Data in Project Vicinity | 4.10-10 |
| Table 4.10-3: Estimated Net Operational Emissions – 2035 | 4.10-12 |
| Table 4.10-4: Estimated Net Operational Emissions – 2007 | 4.10-13 |
| Table 4.10-5: Localized Operational Concentrations, 2035 with BRT | 4.10-15 |
| Table 4.10-6: Idle Emissions, 2035 with BRT | 4.10-16 |
| Table 4.10-7: Toxic Air Contaminant Concentrations on Parallel Streets, 2035 with BRT | 4.10-17 |
| Table 4.10-8: Estimated Gross Citywide Greenhouse Gas Emissions – 2035 | 4.10-21 |
| Table 4.10-9: Estimated Net Citywide Greenhouse Gas Emissions – 2035 | 4.10-21 |
| Table 4.10-10: Estimated Gross Citywide Greenhouse Gas Emissions – 2007 | 4.10-22 |
| Table 4.10-11: Estimated Net Citywide Greenhouse Gas Emissions – 2007 | 4.10-23 |
| Table 4.11-1: Land Use Categories and Metrics for Transit Noise Impact Criteria | 4.11-4 |
| Table 4.11-2: Ground-Borne Vibration Impact Criteria for Human Annoyance | 4.11-6 |
| Table 4.11-3: Construction Vibration Damage Criteria | 4.11-7 |
| Table 4.11-4: Operational Noise Levels for Build Alternative 2 | 4.11-13 |
| Table 4.11-5: Operational Noise Levels for Build Alternatives 3 and 4 and the LPA | 4.11-14 |
| Table 4.12-1: Annual Year 2035 Countywide Energy Use for the Project Alternatives | 4.12-3 |
| Table 4.14-1: 2000 U.S. Census Block Group Analysis | 4.14-2 |
| Table 4.15-1: Anticipated Construction Areas and Excavation Depths | 4.15-2 |
| Table 4.15-2: Preferred Construction Approach and Schedule | 4.15-5 |
| Table 4.15-3: Elements of Transportation Management Plan | 4.15-7 |

Table 4.15-4: Build Alternative 2 Estimated Daily Construction Emissions – Unmitigated | 4.15-24

Table 4.15-5: Build Alternative 3 Estimated Daily Construction Emissions – Unmitigated | 4.15-25

Table 4.15-6: Feasible Control Measures for Construction Emissions | 4.15-27

Table 4.15-7: Build Alternative 2 Estimated Daily Construction Emissions – Mitigated | 4.15-28

Table 4.15-8: Build Alternative 3 Estimated Daily Construction Emissions – Mitigated | 4.15-28

Table 4.15-9: Projected Construction Noise Emission Levels (dBA) | 4.15-29

Table 4.15-10: Vibration Source Levels and Building Damage Impact Distances for Construction Equipment | 4.15-31

Table 5-1: Reasonably Foreseeable Projects within General Vicinity of the Proposed Van Ness Avenue BRT Project | 5-2

Table 5-2: Summary of Parking Loss on Van Ness Avenue from Project Implementation | 5-17

Table 5-3: Summary of Parking Loss on Van Ness Avenue from Project Implementation – No Build, LPA | 5-18

Table 7-1: CEQA Significance Criteria | 7-3

Table 7-2: Summary of Environmental Impacts under CEQA | 7-9

Table 7-3: CEQA Mandatory Findings of Significance | 7-22

Table 9-1: Capital Cost Estimates for Build Alternatives | 9-1

Table 9-2: Annual Operating and Maintenance Costs for Proposed Service | 9-5

Table 10-1: Performance Indicators and Definitions | 10-3

Table 10-2: Adverse Colored-Zone Parking Impacts under the LPA | 10-33

Table 10-3: Project Impact on High-Quality Landscaped Medians Featuring Mature Tree Canopies | 10-37

Table 10-4: LPA Performance Summary against Purpose and Need Evaluation | 10-39

Acronyms and Abbreviations

| | |
|-------------------|--|
| °F | degrees Fahrenheit |
| µg/m ³ | micrograms per cubic meter |
| AADT | annual average daily traffic |
| AB | Assembly Bill |
| ABAG | Association of Bay Area Governments |
| AC | asphalt concrete |
| ACHP | Advisory Council on Historic Preservation |
| ACM | asbestos-containing material |
| ADA | Americans with Disabilities Act |
| ADL | aerially deposited lead |
| amsl | above mean sea level |
| ANACRSA | Archaeological and Native American Cultural Resources Sensitivity Assessment |
| APC | automatic passenger counter |
| APE | Area of Potential Effects |
| APS | Alternative Planning Strategy |
| APS | Accessible Pedestrian Signal |
| ARRA | American Recovery and Reinvestment Act |
| ASTM | American Society for Testing and Materials |
| AT | articulated trolley bus |
| ATCM | Air Toxics Control Measures |
| Authority | San Francisco County Transportation Authority |
| AVL | automatic vehicle location |
| AWSS | auxiliary water supply service |
| BAAB | Bay Area Air Basin |
| BAAQMD | Bay Area Air Quality Management District |
| BACI | Bay Area Climate Initiatives |
| BACT | best available control technology |
| BART | Bay Area Rapid Transit |
| bgs | below ground surface |
| BI | No Project Impact |
| BMPs | Best Management Practices |
| BMS | Better Market Street Project |
| BRT | bus rapid transit |
| BSM | SFDPW Bureau of Street Use and Mapping |
| BTUs | British Thermal Units |

| | |
|---------------------|--|
| CAA | Clean Air Act |
| CAAs | Clean Air Act Amendments |
| CAAQS | California Ambient Air Quality Standards |
| CAC | Citizens Advisory Committee |
| CalEPA | California Environmental Protection Agency |
| California Register | California Register of Historical Resources |
| Cal-OSHA | California Division of Occupational Safety and Health Administration |
| Caltrans | California Department of Transportation |
| CARB | California Air Resources Board |
| CC | cable car |
| CCAA | California Clean Air Act |
| CCR | California Code of Regulations |
| CCSF | City and County of San Francisco |
| CDFW | California Department of Fish and Wildlife |
| CEC | California Energy Commission |
| CEQ | Council on Environmental Quality |
| CEQA | California Environmental Quality Act |
| CER | Conceptual Engineering Report |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act of 1980 |
| CERFA | Community Environmental Response Facilitation Act of 1992 |
| CESA | California Endangered Species Act of 1984 |
| CFGC | California Fish and Game Code |
| CFR | <i>Code of Federal Regulations</i> |
| CH ₄ | methane |
| CHP | California Highway Patrol |
| CHRIS | California Historical Resources Information Center |
| CMAQ | Congestion Mitigation and Air Quality |
| CMP | Congestion Management Program |
| CNDDDB | California Natural Diversity Database |
| CO | carbon monoxide |
| CO ₂ | carbon dioxide |
| CO ₂ e | carbon dioxide equivalent |
| COZEEP | Construction Zone Enhanced Enforcement Program |
| CPMC | California Pacific Medical Center |
| CPUC | California Public Utilities Commission |
| CRA | California Resources Agency |

| | |
|--------|--|
| CRHR | California Register of Historical Resources |
| CSAA | California State Automobile Association |
| CSS | combined sewer system |
| CULCOP | Committee for Utility Liaison on Construction and Other Projects |
| CWA | Clean Water Act |
| CWTP | 2004 Countywide Transportation Plan |
| cy | cubic yards |
| dB | decibel |
| dBA | A-weighted decibel |
| DOT | United States Department of Transportation |
| DPM | diesel particulate matter |
| DSA | disturbed soil area |
| EDR | Environmental Database Reports |
| E.O. | Executive Order |
| EB | eastbound |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| EPA | United States Environmental Protection Agency |
| FEMA | Federal Emergency Management Agency |
| FESA | Federal Endangered Species Act of 1973 |
| FHWA | Federal Highway Administration |
| FIFRA | Federal Insecticide, Fungicide, and Rodenticide Act |
| fps | feet per second |
| FR | <i>Federal Register</i> |
| FS | far side of intersection |
| FTA | Federal Transit Administration |
| FY | fiscal year |
| GGBHTD | Golden Gate Bridge, Highway and Transportation District |
| GGNRA | Golden Gate National Recreation Area |
| GGT | Golden Gate Transit |
| GHG | greenhouse gas |
| GPS | global positioning system |
| gsf | gross square feet |
| HAPs | hazardous air pollutants |
| HCM | Highway Capacity Manual |
| HOV | high-occupancy vehicle |
| HPC | Historic Preservation Commission |

| | |
|------------------|--|
| HPS | Historic Property Survey |
| HRIER | Historic Resources Inventory and Evaluation Report |
| HSC | historic street car |
| HSIP | Highway Safety Improvement Program |
| IES | Illuminating Engineering Society |
| IRRS | Interregional Road System |
| ISA | International Society of Arboriculture |
| ISA | Initial Site Assessment |
| ISP | iron stone pipe |
| ITSP | Interregional Transportation Strategic Plan |
| kV | kilovolt |
| LBP | lead-based paint |
| LCFS | low-carbon fuel standard |
| L _{dn} | day-night average sound pressure level |
| L _{eq} | equivalent sound pressure level |
| L _{max} | maximum sound pressure level |
| LOS | level of service |
| L _p | sound pressure level |
| LPA | locally preferred alternative |
| LRDP | Long-Range Development Plan |
| LRV | light-rail vehicle |
| LSI | Less than Significant Impact |
| LUSTs | leaking underground storage tanks |
| M | metered |
| Ma | million years ago |
| MACT | maximum available control technology |
| MAPS | Mobility, Access, and Pricing Study |
| MBTA | Migratory Bird Treaty Act |
| MC | motor coach |
| MLD | most likely descendant |
| MLP | maximum load point |
| M _{max} | maximum moment magnitude earthquake |
| MMT | million metric tons |
| mph | miles per hour |
| MPO | metropolitan planning organization |
| MRI | magnetic resonance imaging |
| MSAT | mobile source air toxics |

| | |
|-------------------|---|
| MTC | Metropolitan Transportation Commission |
| MTS | Metropolitan Transportation System |
| MUTCD | Manual on Uniform Traffic Control Devices |
| N ₂ O | nitrous oxide |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |
| National Register | National Register of Historic Places |
| NB | northbound |
| NEPA | National Environmental Policy Act |
| NESHAPs | national emissions standards for hazardous air pollutants |
| NHL | National Historic Landmark |
| NHPA | National Historic Preservation Act of 1966 |
| NHS | National Highway System |
| NM | nonmetered |
| NO | nitric oxide |
| NO ₂ | nitrogen dioxide |
| NOA | naturally occurring asbestos |
| NOA | Notice of Availability |
| NOAA | National Oceanic and Atmospheric Administration |
| NOC | Notice of Completion |
| NOI | Notice of Intent |
| NOP | Notice of Preparation |
| NO _x | nitrogen oxide |
| NPDES | National Pollutant Discharge Elimination System |
| NPI | No Project Impact |
| NPS | National Park Service |
| NRHP | National Register of Historic Places |
| NS | near side of intersection |
| NTD | National Transit Database |
| O ₃ | ozone |
| OCS | Overhead Contact System |
| OHP | Office of Historic Preservation |
| O&M | operations and maintenance |
| OPR | Office of Planning and Research |
| OSHA | Occupational Safety and Health Act |
| Pb | lead |
| PCBs | polychlorinated biphenyls |

| | |
|-------------------|--|
| PCGA | Project Construction Grant Agreement |
| PCP | Project Construction Plan |
| PDA | Priority Development Areas |
| PDT | Project Development Team |
| PG&E | Pacific Gas and Electric |
| PI | Project Impact |
| PM ₁₀ | particulate matter less than 10 microns in diameter |
| PM _{2.5} | particulate matter less than 2.5 microns in diameter |
| POAQC | Projects of Air Quality Concern |
| ppb | parts per billion |
| ppm | parts per million |
| PPV | peak particle velocity |
| PRC | Public Resources Code |
| RCP | reinforced concrete pipe |
| RCRA | Resource Conservation and Recovery Act of 1976 |
| RECs | Recognized Environmental Conditions |
| RHNA | Regional Housing Needs Allocation |
| RMS | root mean square |
| ROD | Record of Decision |
| ROG | reactive organic gas |
| ROW | right-of-way |
| RTP | Regional Transportation Plan |
| RWQCB | Regional Water Quality Control Board |
| SAFETEA-LU | Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users |
| SAR | Strategic Analysis Report |
| SB | Senate Bill |
| SB | southbound |
| SC/PI | Significant Contribution/Project Impact |
| SCS | Sustainable Communities Strategy |
| SEL | sound exposure level |
| SER | Standard Environmental Reference |
| SEWTP | Southeast Wastewater Treatment Plant |
| SFCTA | San Francisco County Transportation Authority |
| SFDPH | San Francisco Department of Public Health |
| SFDPW | San Francisco Department of Public Works |
| SFFD | San Francisco Fire Department |
| SFHPC | San Francisco Historic Preservation Commission |

| | |
|-----------------|---|
| SFMTA | San Francisco Municipal Transportation Agency |
| SFPUC | San Francisco Public Utilities Commission |
| SFWD | San Francisco Water Department |
| SHOPP | State Highway Operation and Protection Program |
| SHPO | State Historic Preservation Officer |
| SIP | State Implementation Plan |
| SMAQMD | Sacramento Metropolitan Air Quality Management District |
| SO ₂ | sulfur dioxide |
| SoMa | South of Market |
| SPUR | San Francisco Planning and Urban Research |
| SR2T | Safe Routes to Transit |
| SRO | single-room occupancy |
| SSGA | Small Starts Grant Agreement |
| STP | Surface Transportation Program |
| STRAHNET | Strategic Highway Network |
| SWITRS | Statewide Integrated Traffic Records System |
| SWPPP | Storm Water Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| TAC | Technical Advisory Committee |
| TACs | toxic air contaminants |
| TAZ | Traffic Analysis Zone |
| TBACT | toxic best available control technology |
| TC | trolley coach |
| TCMs | Transportation Control Measures |
| TEP | Transit Effectiveness Project |
| TIGER III | Transportation Investment Generating Economic Recovery |
| TIP | Transportation Improvement Plan |
| TJPA | Transbay Joint Powers Authority |
| TLC | Transportation for Livable Communities |
| TMDL | total maximum daily load |
| TMP | Transportation Management Plan |
| TPI | Transit Performance Initiative |
| TPS | Transit Preferential Streets |
| TPY | tons per year |
| TRB | Transportation Research Board |
| TSCA | Toxic Substances Control Act |
| TSF | Transportation Sustainability Fee |

| | |
|--------|---|
| TSM | Transportation System Management |
| TSP | Transit Signal Priority |
| TSP | Transportation Sustainability Program |
| TVM | ticket vending machines |
| U.S.C. | United States Code |
| US 101 | U.S. Highway 101 |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| VdB | vibration decibel |
| VCP | vitriified clay pipe |
| VMT | vehicle miles traveled |
| VOC | volatile organic compounds |
| vph | vehicles per hour |
| VRF | Vehicle Registration Fee |
| WB | westbound |
| WDR | Waste Discharge Requirements |
| YOE | Year of Expenditure |